NASA Procedural Requirements

NPR 4100.1F
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COMPLIANCE IS MANDATORY FOR NASA EMPLOYEES

NASA Supply Support and Material Management Updated with Change 1

Responsible Office: Logistics Management Division

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Chg#	Date	Description/Comments
1	01/08/2020	Updated to close Audit A1601800, NASA's Management of the Safe Autonomous Systems Operations Project and Unmanned Aircraft Systems. The OIG recommended OSI create or incorporate into existing policy criteria for defining the UAS determination of spares for acquired aircraft. The updates were approved by HQ/LMD and HQ AMD on January 8, 2020.

Preface

P.1 Purpose

This NASA Procedural Requirements (NPR) is issued pursuant to 51 U.S.C. § 20113 (a). It implements requirements contained in NPD 4100.1 and in the Federal Property Management Regulations (FPMR) that sets forth procedures governing the acquisition, management, and use of materials.

P.2 Applicability

a. This directive is applicable to NASA Headquarters and NASA Centers, including Component Facilities and Technical and Service Support Centers. This directive applies to the Jet Propulsion Laboratory (JPL), Federally Funded Research and Development Center (FFRDC), and other contractors only to the extent specified or referenced in applicable contracts.

b. In this NPR, all mandatory actions (i.e., requirements) are denoted by statements containing the term "shall." The terms "may" or "can" denote discretionary privilege or permission, "should" denotes a good practice and is recommended but not required, "will" denotes expected outcome, and "are/is" denotes descriptive material.

c. In this directive, all document citations are assumed to be the latest version unless otherwise noted.

P.3 Authority

a. The National Aeronautics and Space Act, 51 U.S.C. § 20113 (a).

b. Federal Acquisition Regulation (FAR), 48 CFR Ch. 1.

c. NASA FAR Supplement, 48 CFR Ch. 18.

d. NPD 4100.1, Supply Support and Material Management Policy.

P.4 Applicable Documents and Forms

a. Defense Cataloging and Standardization Act 10 U.S.C. 2451-2456.

b. Standards of Ethical Conduct for Employees of the Executive Branch, 5 CFR Part 2635.

c. Federal Requisitioning System, 41 CFR Subpart 101-26.2.

d. Procurement of GSA Stock Items, 41 CFR Subpart 101-26.3

e. Stock Replenishment, 41 CFR Subpart 101-27.1.

f. Criteria for Economic Retention Limits, 41 CFR § 101-27.304.

g. Federal Property Management Regulations (FPMR), 41 CFR Ch. 101.

h. NPD 4200.1, Equipment Management.

i. NPD 8730.2, NASA Parts Policy.

j. NPD 9800.1, NASA Office of Inspector General Programs.

k. NPR 1440.6, NASA Records Management.

l. NPR 1600.1, NASA Security Program Procedural Requirements.

m. NPR 1620.3, Physical Security Requirements for NASA Facilities and Property.

n. NPR 4200.1, NASA Equipment Management Procedural Requirements.

o. NPR 4300.1, NASA Personal Property Disposal Procedural Requirements.

p. NPR 7900.3, Aircraft Operations Management Manual.

q. NPR 8735.1, Procedures for Exchanging Parts, Materials, Software, and Safety Problem Data Utilizing the Government-Industry Data Exchange Program (GIDEP) and NASA Advisories.

r. NASA Form (NF) 598, Property Survey Report.

s. NF 1603, FEDSTRIP/MILSTRIP Activity Address Code Data.

t. DD Form 146, Federal Item Logistics Data Record (FILDR).

u. NASA-STD-6008, NASA Fastener Procurement, Receiving Inspection, and Storage Practices for Spaceflight Hardware.

v. NASA-STD 8739.6, Implementation Requirements for NASA Workmanship Standards.

w. NASA-HDBK 8739.23, NASA Complex Electronics Handbook for Assurance Professionals.

x. DoD 4100.39-M, Federal Logistics Information System (FLIS) Procedures Manual.

y. DoD 4140.27-M, DoD Shelf-Life Management Program.

aa. International Standards Office (ISO) 9001, Quality Management Systems - Requirements.

bb. Cataloging Handbook H2, Federal Supply Classification Groups and Classes.

cc. Federal Item Name Directory, H6.

dd. Introduction to Federal Supply Catalogs and Related Publications, C1-Volume 3. Federal Item Logistics Data Record (FILDR).

ee. Proprietary Item Identification List (PIIL).

ff. Master Cross Reference Data (MCRD).

gg. Management Data List (MDL).

P.5 Measurement/Verification

The Systems, Applications, and Products (SAP) data management system, the Agency-wide Enterprise Resource Planning (ERP) system, provides routine reports of material management data, enabling assessment of the health of the NASA Supply Management System (SMS). Report examples include Supply Materials and Inventory Report, Supply Materials Aging Report, and NASA Supply Warehouse Capacity Utilization Report.

P.6 Cancellation

NPR 4100.1D, NASA Materials Inventory Management Manual, dated July 29, 1999.

Chapter 1. General Information

1.1 General Information for Supply Management

1.1.1 Purpose. This chapter sets forth comprehensive requirements for the acquisition, documentation, utilization, accountability, maintenance, and inventory of stocked equipment, material and supplies.

1.1.2 General

1.1.2.1 NASA material and supplies are Government property and are to be used exclusively for official business. Accountability measures, identified in this NPR, ensure that each item of material and supply stored in inventory is accounted for from acquisition to disposal.

1.1.2.2 Supply Management is administered in accordance with NPD 4100.1. Internal controls identified in this NPR apply to managing NASA-owned material and supplies until they are issued or transferred for disposal and recorded in the Agency's disposal system (DISPOSAL). These internal controls provide for effective and efficient accountability of all material and supplies procured, received, stored, and issued to support NASA mission requirements and institutional operations.

1.1.2.3 The SAP Supply Management System (SMS), hereafter referred to as the SMS system, is the system of record used to identify and account for inventory classified as store, program, and standby stock.

a. Centers shall record and manage supplies and materials held by contractors, for which a Center retains accountability under 48 CFR, Ch. 18 in SMS and as described in this NPR.

b. The SMS is the official record that is maintained to identify supplies and material. Each item record provides the quantity of items on hand, unit price, location, physical condition, receipt and issue records, authorized stock numbers, item description, and other information necessary to properly account for and identify material supplies and equipment in inventory.

c. Use of any other system as the official record is not authorized unless a waiver is granted by the Director, Logistics Management Division.

1.2 Roles and Responsibilities

1.2.1 The Assistant Administrator (AA) for the Office of Strategic Infrastructure (OSI) serves as the Agency institutional authority for logistics management. The AA oversees the implementation, integration, and Center compliance with NPD 4100.1. The AA for OSI provides executive management direction and ensures through advocacy with Center Directors that adequate resources are maintained to accomplish the Supply Management functional objectives.

1.2.2 The Director, Logistics Management Division at NASA Headquarters is the functional manager for all matters pertaining to NASA supply and material management. The Director provides functional management, leadership, and assistance in implementing an effective supply management program.

1.2.3 The NASA Headquarters (HQ) Supply Program Manager, under the authority of the NASA HQ Logistics Management Director, provides leadership, policy and procedural development, functional oversight, improvements, assistance, and advocacy for all SMS functions.

1.2.4 Center Directors shall:

a. Provide management direction and the resources necessary for supplies and material inventory controls and accounting requirements.

b. Appoint a Supply and Equipment Management Officer (SEMO).

c. Appoint an Inventory Adjustment Officer who will be responsible for review and approval of inventory adjustment reports.

1.2.5 Center Operations Directors or equivalent NASA Officials shall review and approve retention and continued storage of material and equipment with no demands or utilization for 24 months. The Supply Officer generates an aging report of material and supplies in inventory with no demand in two years for submission to the Center Operations Director or equivalent for approval of continued retention.

1.2.6 Division Directors or Equivalent NASA Officials, as authorized or delegated by the Center Director, are the primary officials responsible for material and supplies ordered and used by their organizations. Division Directors or equivalent NASA Officials shall:

a. Ensure material and supplies purchase and use are in accordance with Federal regulations, NPRs, and NPDs.

b. Identify personnel authorized to order material supplies and equipment on behalf of the organization.

(1) Designate individuals authorized to order tools, personal protective equipment (PPE), and controlled (classified, sensitive, and pilferable) items.

(2) Ensure tools are controlled and accounted for after issue to requesting organization.

c. Ensure contractors authorized to order supplies, material, and equipment on behalf of the organization do not have a conflict of interest when providing recommended sources for acquisition of material supplies and equipment.

d. Ensure material supplies and equipment stored in the organization are used for official NASA business.

e. Ensure all Government property issued to or used by employees is properly used and cared for and that proper custody and safekeeping are provided.

f. Protect material and supplies from loss, damage, destruction, and theft. Initiate a Property Survey Report (NF598) when material or supplies are lost, stolen, damaged, or destroyed in accordance with paragraph 1.2.8 of this NPR and NPR 4200.1.

g. Ensure funding is available when personnel request material supplies and equipment.

h. Review the listing provided by the SEMO of equipment, material, and supplies held in storage and provide retention justification in writing every 24 months for launched, inactive, and canceled projects and programs:

(1) Consider cost to hold material with no usage in 24 months when justifying retention. Only retain those items that have a current or future usage.

(2) Report material supplies and equipment items as excess in accordance with NPR 4300.1, when no longer required to meet mission requirements.

(3) Ensure material in storage is drained and purged of fluids and hazards prior to storage.

(4) Ensure periodic maintenance of material and equipment is accomplished to prevent deterioration of items in storage.

(5) Ensure all items placed in storage on behalf of the organization are serviceable.

i. May allow purchase of office supplies with the organizations Government-wide commercial credit card if authorized by Center Procurement policy. Center organizations can acquire office supplies through General Services Administration (GSA) Advantage.

(1) Center organizations can use GSA Advantage to search specific information (i.e., National Stock Number (NSN), part number, common name), review delivery options, place orders directly with Federal Supply Schedule contractors, and pay for orders using the Government-wide commercial purchase card.

j. Ensure storage areas are approved by the Supply Officer and correct any deficiencies identified in annual walk through.

1.2.7 The SEMO is the principal official appointed by Center Directors for functional administration of supply/material management at the Centers and sub-installations. The SEMO shall:

a. Ensure Center supply policies and procedures are developed in accordance with this NPR.

b. Appoint a Supply Officer to serve as the functional manager responsible for executing the responsibilities outlined in this NPR.

c. Review supply inventory accuracy and issue effectiveness metrics and approve corrective actions to improve metric outcomes when the standard is not achieved.

d. Approve supply inventory schedule.

e. Approve and submit the supply material aging report to the Senior Logistics Manager and Center Operations Director or their equivalent for approval to retain material contained in the report.

f. Share joint responsibility with the Center's Deputy Chief Financial Officer for the accuracy of material financial reports.

g. Ensure that senior Center management is kept advised of significant supply materials control and management matters.

h. Provide NASA Supply Program Manager with a copy of the Statement of Work for any Center Logistics Contract awarded by the Center.

i. Ensure procedures are developed to ensure all materials and supplies ordered or stored are assigned an NSN or a local stock number when authorized by this NPR.

1.2.8 The Supply Officer is responsible for managing and overseeing the Center supply management

program under the direction of the SEMO and Center Senior Logistics Manager respectively. The Supply Officer shall:

a. Ensure that Center policies and procedures necessary to comply with this NPR are developed, implemented, and approved by SEMO and Center Senior Logistics Manager.

b. Designate a Precious Metals Monitor responsible for maintaining surveillance over the acquisition and control of precious metals and critical materials in storage.

c. Designate and approve storage areas and supply points that provide security, preservation, and protection of material inventories. d. Develop procedures and policies to prevent unauthorized access to stored material.

(1) Identify personnel authorized to withdraw material supplies and equipment.

(2) Conduct an annual storage area walk through to ensure organizational storage areas are in compliance with Center policy and procedures.

(3) Document deficiencies and provide to applicable director for the owning organization.

e. Designate an Activity Address Code (AAC) Coordinator to submit Center requests for addition, changes, extension, and deletion of AACs to HQ NASA Supply Program Manager.

f. Promote economy in acquiring, retaining, and using material.

g. Ensure the integrity of the Agency supply records, accounts, and reports.

h. Ensure materials and supplies are physically inventoried as prescribed in this NPR.

i. Ensure materials that are no longer required for the performance of NASA programs are transferred to disposal using the NASA PP&E System NASA Disposal Module.

j. Ensure inventory records are retained in accordance NPR 1440.6.

k. Participate in Government-Industry Data Exchange Program (GIDEP) in accordance with NPR 8735.1. Develop local supply procedures that at a minimum include processes and procedures to:

(1) Screen aircraft, project and program inventory, and customer requests against GIDEPs.

(2) Tag and segregate nonconforming inventory identified in GIDEPs

(3) Obtain written disposition instructions from material owner/users.

(4) Maintain an electronic file of disposition instructions.

l. Ensure that a NF 598 is submitted in accordance with NPR 4200.1 and the criteria below for the following:

(1) Hand tools or other pilferable items more than $100 unit cost or $500 total cost are lost or stolen.

(2) Supply system stock records are adjusted when in excess of $2,500 for pilferable items.

(3) Supply system stock record adjustments that exceed $50,000.

(4) Ammunition, explosives, weapons, hazardous, biological, International Traffic in Arms Regulation (ITAR) material, drugs, or classified losses regardless of cost.

(5) Repetitive cases of loss, damage, or destruction, even though none by itself would warrant processing a Property Survey Report.

(6) Hand Tools and Other Pilferable Items. When negligence is suspected, a Property Survey Report is initiated for all tool losses regardless of unit cost; however, a report is not required for hand tool losses when the unit cost is less than $100, the total cost is less than $500, or no negligence is involved. This guidance does not prevent the initiation of a Property Survey Report when the loss is less than $100/500 and it is apparent that there have been systematic losses of tools over a period of time. This $100/500 limit also applies to other pilferable items.

m. Monitor supply inventory accuracy and issue effectiveness metrics and recommend improvements to SEMO when the metrics are not achieved.

n. Ensure only personal protective equipment approved by the Center Director or designee is stocked and issued by Center Logistics.

o. For all aircraft operated by NASA Centers and subordinate facilities, including Unmanned Aircraft Systems (UAS), Centers shall determine and document sparing requirements based on intended use, system reliability, component and parts availability, tempo of operation, and mission criticality.

1.2.9 Each employee is responsible for Government property as set forth in the Standards of Ethical Conduct for Employees of the Executive Branch, in 5 CFR pt. 2635. Any employee who observes crime, fraud, waste, or abuse, or who receives an allegation of crime, fraud, waste, or abuse, from any source will report such observation or allegation to the Office of Inspector General in accordance with NPD 9800.1.

Chapter 2. Federal Catalog System

2.1 Background

2.1.1 The Federal Catalog System (FCS) is a Government-wide program established by Pub. L. 82-436 to provide a uniform system of item identification; preclude/eliminate different identifications of like items; reveal interchangeability among items; aid in parts standardization; facilitate intra-agency logistics support; and improve material management effectiveness by promoting efficiency and economy in logistics operations.

2.1.2 Under the FCS, a national stock number (NSN) is assigned to material supplies and equipment that is repeatedly procured, stocked, stored, issued, and used throughout the Federal supply system. When a 13-digit NSN is assigned to an item of supply, data is assembled to describe the item. Some data elements include information such as an item name, manufacturer's part number, unit price, and physical and performance characteristics. NSNs are an essential part of life-cycle management because it provides the logistics information required to manage, move, store, and dispose of material, supplies, and equipment.

2.1.3 A 13-digit NSN comprises the Federal Supply Class (FSC), country of origin, and the remaining seven digits are sequentially assigned and unique to each NSN. For example, 6240 is the FSC for electric lamps. It is used to group like items, which would include fluorescent lamps, incandescent lamps, mercury lamps, and sodium lamps. The next two digits make up the country of origin (COO) code that signifies the country that originally requested the NSN assignment. COO codes 00 and 01 are both used to identify the United States. The remaining seven digits of the NSN are sequentially assigned and are unique to each NSN. The following is an example of an NSN for an electric lamp:

6240	00	357-7976
FSC	**COO**	**Seven-digit sequentially assigned number**

2.2 Determination of Items to be Cataloged

2.2.1 Center SEMOs shall ensure all personal property is cataloged and assigned an NSN.

2.2.1.1 Center Supply Officers shall ensure all items of personal property are assigned an NSN under the FCS. Local stock numbers may be assigned to personal property (except equipment) that are subject to non-repetitive procurement, storage, distribution, or issue and are deemed a onetime requirement (nonrecurring). The term "repetitive" means recurring requirements for personal property of three or more demands on the supply system within a 6-month, 180-day period of time. The following items are excluded from the FCS:

a. Printed forms, charts, NPRs, books, and other publications subject to central administrative or numbering controls within a NASA activity.

b. Fabricated hardware or local manufactured materials that are in the research and development stage.

c. Program/Project samples of program material.

2.3 Responsibilities

2.3.1 NASA HQ, Logistics Management Division Supply Program Manager shall develop and implement a sustainable cataloging process meeting the objectives of the FCS.

2.3.2 The NASA HQ Supply Program Manager shall:

a. Provide policy, plans, requirements, and procedures to achieve full implementation and use of the FCS.

b. Interpret and implement FCS concepts, rules, and procedures in the NASA process.

c. Coordinate technical, procedural, and policy aspects of the FCS for NASA cataloging activities with GSA, Defense Logistics Agency (DLA), and other Federal agencies.

d. Provide catalog publications and management products to NASA Centers.

2.3.3 Center Supply Officer and Equipment Management shall:

a. Assign an NSN to all material and supplies that are repetitively purchased, stocked, stored, or issued.

b. Assign an NSN to all equipment items.

c. Screen part numbers of new items against the Federal Catalog System (FedLog) to determine if an NSN already exists.

(1) FedLog is accessed at the NASA Business Systems Portal (bReady) via URL (Uniform Resource Locator): https://bready.nasa.gov/web/bready/.

(2) Catalogers can request access to bReady portal by submitting an Identity, Credential, Access, User Self Service (IDMax) request.

(3) Requests to access FedLog are approved by the Supply Officer and sent by e-mail to the NASA Supply Program Manager.

(4) The FedLog access request needs to contain the individual's name and user identification (UserID). Contractors must submit contract number and expiration date along with access request.

2.3.3.1 If the part number, item name, manufacturer, characteristics, and specifications are the same, the cataloger can use the existing NSN in SMS or Property, Plant and Equipment (PP&E) System.

2.3.3.2 Only one stock number will be used for an item from purchase to final disposal.

2.3.3.3 If the item is a onetime requirement, the cataloger can assign a local NSN.

2.3.3.4 If the requirement is repetitive and an NSN does not exist, the cataloger should assign a temporary local NSN and submit a cataloging request to General Services Administration (GSA) e-mailbox, FSS.Cataloging@gsa.gov. Ensure the cataloging request contains the following:

a. Part number - Obtain from customer submitting requirement.

b. Item name - Obtain from Federal Item Name Directory, Cataloging Handbook H6, Federal Item Name Directory. H6 can be accessed at URL: http://catalog.data.gov/dataset/federal-item-name-directory-h6-search-tool.

c. Technical data or specifications - Obtain from customer submitting requirement.

d. Federal supply class - Use Cataloging Handbook H2, Federal Supply Classification Groups and Classes at URL: http://www.dla.mil/Portals/104/Documents/DispositionServices/Receiving/Usable/DISP_h2book%5b1%5d.pdf.

e. Characteristics of an Item of Supply - Physical characteristics consist of everything that enters into the makeup of the item, such as structure, material content, chemical composition, electrical data, dimensions, formation or arrangement of parts, and principles of operation. Performance characteristics consist of the special or peculiar kind of action or service provided by and expected of the item because of its physical characteristics.

f. Commercial and Government Entity (CAGE) - Located at URL: https://cage.dla.mil/.

2.3.3.5 GSA will send the requestor a 13-digit NSN by e-mail. Upon receipt of the e-mail, the cataloger will replace the local NSN with the new NSN received from GSA. They then will update the Supply Management System with the shelf life code, demilitarization code, electrostatic discharge code, controlled inventory item code, hazardous material indicator code, and precious metal code.

2.3.3.6 The cataloger will maintain a local NSN assignment log that can be cross-referenced to the part number and NSN assigned by GSA.

2.3.3.7 The cataloger will submit requests to GSA for changes to the FSC. Change requests may consist of new item names, additions or changes, Federal item identification guide changes, and reference drawings updates or changes.

2.4 Federal Catalog System Products

2.4.1 To adequately participate in the FCS, each NASA Federal cataloging activity will maintain access to catalog products for basic item identification research. The cataloging products below can be accessed at URL: https://www.dlis.dla.mil/PublicHome/H2/default.aspx these products include but are not limited to the following:

a. Federal Logistics Information System (FLIS) Procedures Manual, DoD 4100.39-M.

b. Master Requirements Directory (MRD).

c. Introduction to Federal Supply Catalogs and Related Publications (C1).

d. Cataloging Handbooks (H-Series).

e. Descriptive and Management Data Products including, Identification List (IL), Proprietary Item Identification List (PIIL), and DD Form 146, Federal Item Logistics Data Record (FILDR).

f. Master Cross Reference Data (MCRD).

g. Management Data List (MDL).

h. Specially tailored publications to include medical catalogs and interchangeability and substitutability (I&S).

i. Current manufacturers' brochures and catalogs.

j. Federal specifications.

k. Military specifications.

l. Qualified Products Listings (QPL).

m. Miscellaneous engineering standards and drawings.

2.4.2 Requests for cataloging products from NASA activities or approved contractors who perform Agency or Center Federal cataloging operations for new changes or deletions to existing requirements are approved by the Center Supply Manager and submitted in writing to the NASA Supply Program Manager.

2.4.3 Agency requirements, including resources, are managed by the NASA Headquarters Supply Program Manager.

2.4.4 Supply Officers shall revalidate and submit their requirements to NASA Headquarters annually by the end of each fiscal year.

2.4.5 Supply Officers shall ensure applicable NASA contracts specify the Government will provide the management products described in this NPR for cataloging.

2.4.6 Contractors who do not perform logistics cataloging operations can satisfy their cataloging publication and product requirements by direct purchase from the following recommended sources:

a. Superintendent of Documents, U.S. Government Printing Office, Washington, DC, can be contacted for purchase inquiries and order placement.

b. U.S. Department of Commerce, National Technical Information Services, Springfield, VA, can be contacted for inquiries and purchase of H-Series Cataloging Handbooks; DoD 4100.39-M; DLAH 4140.3; C1 Volumes; Freight, Medical, and Qualified U.S. Contractors Access List.

c. DLSC, Battle Creek, MI, can be contacted for inquiries and one-time purchase of Identification Lists, Lumber Catalog, Medical Catalog, and Federal Item Identification Guides.

2.5 Item Identification and Use of National Stock Numbers

2.5.1 The most important element of a cataloging process is establishing a unique identification for a material item. Proper item identification is a fundamental prerequisite in performing all management operations. The concept of an item of supply is expressed in and fixed by a Federal Item Identification that consists of the minimum data that is adequate to clearly establish the essential characteristics of the item, give the item its unique character, and make use of and differentiate it from every other item of supply used in the Federal Government.

2.5.2 NASA cataloging activities follow four basic steps in the item identification process:

a. Select the item name. The identification data recorded and the Federal Supply Classification assigned an item are governed by the name selected for the item.

b. Classify item. Classification is one aspect of cataloging that is the exclusive responsibility of activity catalogers.

c. Identify descriptive and/or reference data. All descriptive characteristics of the item both physical and performance are identified. Include part number, cage code, and model number.

d. Submit appropriate documentation to GSA for assignment of an NSN for those items meeting the FCS criteria.

Chapter 3. Inventory Management

3.1 Inventory Classification

3.1.1 The three stock classifications for inventory are: Store Stock, Program Stock, and Standby Stock. The stock designation codes are input into SMS to identify the inventory classification. NASA inventories are assigned a stock designation as follows:

a. Store Stock Designation Code of 1 - Inventory repetitively procured, stored, and issued. Repetitive means the customer requirements for the material, supplies, or equipment will be on a recurring basis.

(1) Store stock can be consumable (consumed in use), repairable (can be returned to a serviceable condition by replacing components), or equipment inventory.

(2) Examples include aircraft parts; electromechanical, electrical, and electronic (EEE) components; mechanical fasteners; furniture; test equipment; tools; and engines.

b. Program Stock Designation Code of 2 - Material, supplies, and equipment purchased and designated for a specific aircraft, unmanned aerial vehicle, program, or project. NASA owns the material; however, the inventory is stored until the customer requests the inventory be issued for its intended purpose. Can be consumable (consumed in use), repairable (can be returned to a serviceable condition by replacing components), or equipment inventory. Examples would be electrical, electronic, electro-mechanical components, ground support equipment, Flight Safety Critical Aircraft Parts (FSCAP), and Life Limited.

c. Standby Stock Designation Code of 3 - Material, equipment, and supplies held for emergencies or critical missions where lack of stock on hand would delay an aircraft, program, project mission, or emergency response that might result in a safety incident; loss, damage, or destruction of Government property; danger to life; or substantial financial loss to the Government.

(1) Standby Stock is reviewed annually by owning Division Chief to ensure continued stocking is still required. Examples are personal protective equipment (goggles, apron, and gloves), spare aircraft engines, deicing salt, fire extinguishers, and clean room material.

3.2 NASA SAP Supply Management System (SMS) and Inventory Records

3.2.1 Accountable Inventory Records: The Center Senior Logistics Manager or equivalent is accountable for physical custody of material in storage and must ensure accountability of that material in the SMS. All material within the NASA supply chain, whether in storage or in transit, will have an accountable record in SMS or other approved supply/inventory management systems that accounts for material by NSN.

a. NASA Centers utilize the SMS to identify, catalog, issue, receive, account for, and physically control all items in inventory.

b. The SEMO on behalf of the Senior Logistics Manager is responsible for ensuring the Supply

Officer executes the actions required to establish accountability for a Center's inventory.

c. The Senior Logistics Manager shall:

(1) Ensure inventory records are established and maintained in SMS and are not accounted for in multiple supply management systems. This includes aircraft and unmanned aerial vehicles material and supplies.

(2) Ensure logistics support contracts specify when inventory in the custody of a contractor is or is not managed as Installation-Accountable Government Property (IAGP).

(3) Inventory that falls under the IAGP clause will be maintained in SMS.

3.3 Inventory Storage Requirements

3.3.1 Supply Officers shall:

a. Ensure inventory stored in Center-owned or -leased warehouse facilities is provided physical security and protection in accordance with NPR 1600.1 and NPR 1620.3.

b. Ensure items requiring special storage are classified "Controlled Inventory" and provided the appropriate provisions.

(1) Controlled inventory are those items designated as having characteristics that require the assets be identified, accounted for, segregated, and handled in a special manner to ensure their safety and integrity.

a) Controlled inventory includes classified, sensitive, and pilferable items.

(b) Classified items require protection in the interest of national security.

(c) Sensitive items require a high degree of protection and control due to statutory requirements or regulations.

(d) Sensitive items include precious metals, items of high value, highly technical items, and items of a hazardous nature like biological agents, drugs, small arms, and missiles.

(e) Pilferable items have a ready resale value or application to personal possession, which are especially subject to theft. Pilferable items include hand tools, shop stock, aircraft parts, ammunition, explosive devices, firearm piece parts, vehicle parts, and communication and electronic parts.

(2) Ensure controlled inventory is stored in a secured, locked storage area.

(a) Access to storage facilities where controlled items are stored will be by authorized personnel only.

(b) Personnel authorized access to controlled inventory storage areas will be designated and approved in writing by the SEMOs.

(3) Ensure classified inventory is stored, issued, and handled by individuals with the appropriate clearance, and material is afforded physical security in accordance with the security classification of the asset.

(4) Coordinate with Center Protective Services to create a process to ensure classified material is issued only to authorized personnel with the same or higher classification as the item being issued.

c. Ensure all inventory stored in warehouses, bulk storage, or cold or outside storage are tagged with material labels generated by SMS or the Center supply management system.

(1) Only one NSN will be assigned to each location. An NSN can be located in multiple locations.

(2) Assignment of a local NSN to a box containing multiple items and an item description of miscellaneous is not authorized. Every item placed in inventory with a different NSN should have its own separate and distinct location.

d. Protect all material in inventory from damage, deterioration, and corrosion from the elements (temperature, humidity, and moisture), foreign objects and contamination. All items in inventory shall be stored in an environment that ensures the material is serviceable and usable for its intended purpose. Warehouses and storage facilities must be clean and neat.

e. EEE components and assemblies containing EEE components that are sensitive to electrostatic discharge (ESD) can only be stored, processed for storage, or issued in accordance with an ESD control plan that is traceable to the requirements of ANSI/ESD S20.20. Only personnel defined in the ESD Control Plan are authorized to handle ESD sensitive EEE components or perform duties relative to ESD controlled storage area certification.

f. Store shelf life items, i.e. those with limited shelf life, in a manner to ensure the oldest stock on hand is easily accessible and issued first using the first in first out (FIFO) process.

3.3.2 Storage Principles. The principles of storage management are the starting point in determining storage requirements and policies used to manage storage. The storage requirements are the maximum use of space consistent with adequate care, protection, and proper identification. The following essential principles shall be considered by storage managers for establishing an effective and efficient warehouse management program:

a. Consider an item's characteristics when selecting a specific type of storage space, e.g., indoors. An item's characteristics can include whether or not it is a shelf-life item, contains hazardous material, or requires special maintenance and/or inspection requirements.

b. Ensure that adequate security, safe storage environments, technical expertise, and test equipment are available when necessary.

c. Maintain material in ready-for-issue condition to prevent the material from deteriorating.

d. Maintain appropriate security to prevent theft, fraud, and abuse.

e. Manage shelf-life items to ensure they are used before they expire.

f. Preserve, package, and mark items for storage and movement using appropriate methods to provide adequate and cost-effective protection.

g. Maintain document and transaction history to ensure a complete audit trail, including receipts and issue documents.

h. Whenever possible, open, inspect, and test material received for acceptability or obvious damage.

i. Consider using Government storage facilities when possible instead of using commercial facilities.

j. Ensure adequate controls are in place to preserve and prevent damage and deterioration of sensitive items due to contamination, corrosion, foreign object debris, and environmental degradation (e.g., temperature and humidity controls).

3.3.3 Space Planning. Warehouse supervisors shall identify space requirements and establish adequate storage allocation. Some considerations in determining space requirements and enough storage allocation include:

a. The size, weight, physical characteristics, and configurations of material being stored and issued.

b. The quantity, ease of receipt and issue, and type of stored material.

c. A means of identifying various storage areas, aisles, and material-movement patterns.

d. Accessibility, potential interference with operations, operating variables, emergencies, and significant organizational changes, which might affect the storage operation.

e. Expansion of storage capability when needed or a reduction in space when storage requirements are reduced.

3.3.4 Warehouse Supervisors shall consider an item's physical characteristics and packaging when determining the need for a specific type of storage space, which can influence operating costs. Assigning material to any of the three types of storage space identified below is dependent largely on its characteristics and packaging.

a. Covered Storage - Covered storage space is within an enclosed building, with or without environmental control, e.g., cooling or heating facilities. Covered storage is used to protect material from deterioration due to weather. Covered or fully enclosed storage space, compared to outside storage, is more costly to construct and maintain and often is supplemented with sheds or lean-tos, which provide partial cover. Supplemental sheds/lean-tos are desirable and effective for storage of material requiring maximum ventilation or those not requiring total protection from the weather. Care should be exercised in selecting material for storage in covered areas. The physical characteristics of the item (size, weight, etc.) and cost effectiveness should be considered before deciding on covered storage.

b. Outside Storage - Outside storage space is an area designated for this purpose and set aside, usually by fencing or other suitable enclosure. Improvised outside storage is usually an area that has been graded and/or hard-surfaced or prepared with a topping of suitable material to provide adequate storage handling operations. While unimproved space is sometimes designated, use it should be used only as an emergency or temporary measure. Outside storage is comparatively economical to operate and maintain. Generally, any item intended for outdoor use can be stored outside provided it is protected properly against adverse conditions. Numerous methods of protecting bare products or packaged units are available. These include tarps, plastic coverings, and portable shelters. Material should never be placed directly on the storage surface, paved or otherwise; use pallets, racks, or other suitable items.

c. Hazardous Materials Storage - Hazardous material storage is any storage space used to hold inventory that by virtue of its potential danger requires control to ensure adequate safety to life and property. Hazardous material will be stored in a designated area apart from regular storage and other non-compatible hazardous material. Appropriate measures need to be taken to ensure immediate and effective response at the storage location in case of emergency. Stock will be limited to the

minimum quantity necessary to satisfy operational requirements.

3.4 Management of Shelf-Life Materials

3.4.1 Shelf-life items are classified as non-extendable (Type I) or extendible (Type II). Use Appendix D to determine if the shelf-life item is extendable. Shelf life indicates how long an item can be stored and remain useable for its intended purpose.

a. Shelf-life items classified as Type I have a finite, non-extendable storage life and are considered to be unusable after the shelf-life date expires.

b. Shelf-life items classified as Type II have an extendable shelf life. Type II items may be tested to determine if the product is still usable for its intended purpose. Examples of Type II items are paint, ink, tape, printing ribbon, printer cartridges, and photographic film.

c. The Center Supply Officer shall ensure monthly inventory details report is generated from SMS or similar report when using other approved SMS to review Type I and II shelf-life material nearing the end of the designated shelf-life period.

(1) The review is required only for shelf-life material with a period of 60 months or less.

(2) Type I expired shelf-life material stored in Center organizations are processed for disposal according to Center policy and procedures. Type I material stored in Logistics shall be disposed of through disposal. Stockpiling of Type I expired program stock shelf-life material in Logistics is not authorized.

(3) Type II items will be inspected to determine whether the shelf-life period can be extended.

(a) These inspection criteria do not apply if the shelf-life item has a line item inventory value of $500 or less or if the cost of inspection and testing is significant in relation to the value of the item.

(b) If material is found suitable for issuance on the date of inspection, the shelf-life period may be extended for a period equal to 50 percent of the original shelf-life period, and the next re-inspection date should be established accordingly.

(c) Upon re-inspection, the shelf life can be extended again up to 50 percent of the original shelf life as long as the material conforms to the established criteria. Supply Officers shall develop a process to document extension of shelf-life periods based on inspection and testing of the material.

(d) Type II expired shelf-life material is processed for disposal according to Center policy and procedures.

d. When the shelf-life period of Type II material (except for critical end-use items as described below) is extended, only the exterior containers of bulk stocks need be annotated or labeled to indicate the date of inspection and date material is to be re-inspected.

(1) A critical end-use item is any item that is essential to the preservation of life in emergencies, e.g., parachutes, marine life preservers, and certain drug products or any item that is essential to the performance of a major system, e.g., aircraft, the failure of which would cause damage to the system or endanger personnel.

(2) Individual units of issue not classified as having a critical end-use application are not required to

be annotated or labeled as long as controls are established to preclude issuance of unserviceable material to a user.

(3) At the time of shipment, the date of inspection and date for re-inspection will be affixed by label or marked by other means on each unit of issue of Type II items having a critical end-use application.

e. To the extent economical, shelf-life materials are packaged to minimize deterioration.

3.4.2 Supply Officers shall:

a. Ensure Type I and II shelf-life items in inventory are used prior to the shelf-life expiration date.

b. Develop and implement procedures for testing Type II shelf-life material to determine if the assets are useable for their intended purpose.

(1) Centers may use the shelf-life extension system (SLES) to extend Type II shelf-life products. The SLES provides information on products that have already been tested and extended by DoD and can be a useful tool to use for Type II shelf-life material that may require an extension.

(2) The testing results housed in the SLES system can be used to extend shelf-life material in inventory without the Center incurring testing cost.

(3) The process for SLES is in DoD 4140.27-M, DoD Shelf-Life Management Program.

c. Shelf-life material stored within organizations. Organizations issued shelf-life material are responsible for creating processes and procedures to ensure material and supplies are utilized prior to the shelf-life expiration if stored within the organization in large quantities. Organizations shall create a review process to ensure Type I nonextendable shelf-life material is either disposed of or an organizational process is created to limit product usage if it can be used for other than its intended purpose without creating a safety issue. Organizations have the option to adopt logistics processes and procedures to ensure Type II shelf-life items are tested and extended or develop their own processes and procedures.

d. Ensure, whenever practicable, procurement documents and contracts contain the requirement for manufacturers and suppliers to mark the unit or container with the month and year of manufacture, shelf-life period, production, and batch number on all shelf-life items procured from other-than-Government sources of supply.

3.5 Precious Metals

3.5.1 Precious metals in any shape or form are susceptible to theft and require extraordinary controls from acquisition to disposal. Procedures for disposal of precious metals are specified in NPR 4300.1.

3.5.1.1 Precious metals are listed below:

a. Silver.

b. Rhodium.

c. Gold.

d. Ruthenium.

e. Platinum.

f. Iridium.

g. Palladium.

h. Osmium.

i. Rhenium.

3.5.1.2 Precious metal alloys are one or more precious metals combined with other materials to form an alloyed material or substance in any shape or form for fabrication, testing, or other research purposes.

3.5.1.3 Precious metal end items are those in any shape or form, consisting solely of one or more precious metals or precious metal alloys that have been shaped or fabricated for research, testing, or use as an entity.

3.5.2 Supply Officers shall establish controls to prevent stockpiling precious metals, including alloys and end items.

3.5.2.1 Precious metals (pure, alloys, and end items) will be acquired only for a specific program, project, or other work activity.

3.5.2.2 Precious metals orders are approved in writing by the senior project or program manager and the SEMO.

3.5.2.3 Precious metals will be maintained in a secured controlled access storage environment with access by authorized personnel and be under documented control and accounting from the time of receipt to final disposition. Such documentation and related control records will indicate the weight of precious metals to the nearest troy ounce.

3.5.2.4 Supply Officers shall ensure physical inventories of precious metals on hand (held for issue or disposition) are conducted annually by someone not having possession or custody of the metals or the individual responsible for maintenance of inventory records. The results of inventories will be reported in writing to the Center SEMO within 30 days after the inventory completion.

3.5.3 Anyone discovering the loss, including theft, of precious metals in any form or end items shall promptly report it to the SEMO and to the Center Security Officer.

3.5.3.1 NF 598 is initiated by the individual having custodial responsibility of the precious metal(s) in question and processed using property survey report processes in accordance with NPR 4200.1. Inventory adjustments are accomplished only after the completion of the property survey report process.

3.6 Returnable Containers

3.6.1 To hold down demurrage costs, Centers, to the extent possible, should not use vendor-owned containers for long-term storage of materials or products in the supply system. To ensure timely recovery of deposit and reduce expenditures for demurrage charges, Center SEMOs shall establish and maintain current and detailed control records on returnable containers acquired by NASA

directly from vendors, including containers used in providing support to onsite contractors.

3.6.2 Supply Officers shall ensure the following factors are considered before exercising the option to obtain either returnable or nonreturnable containers:

a. Administrative details involved, such as bookkeeping and accounting necessary to account for returnable container items while in NASA's possession.

b. The advantages of procuring items in low-value, nonreturnable containers when administrative costs incurred in handling returnable containers would result in increased cost to the Government.

c. Possible loss or damage to the containers while in the Government's possession, thereby either precluding any possible refund or reducing the monetary return when the container is returned to the vendor.

d. The possibility of incurring demurrage charges that may equal the cost of the container itself.

e. Difficulties to be encountered in ensuring that returnable containers are returned to the proper vendors for credit.

f. Handling and transportation costs to be incurred by NASA for returning empty containers to the vendors.

g. Costs involved in disposal of nonreturnable containers.

h. The feasibility of acquiring and utilizing Government-owned containers.

3.6.3 The Supply Officer shall establish and maintain current, detailed control records for returnable containers.

a. Control records provide complete, accurate data of returnable container transactions from time of receipt until return to vendors.

b. Maintaining detailed individual records is optional on any returnable container requiring a monetary deposit of $25 or less when demurrage charges are not involved.

c. Although detailed records are optional for low-value containers, the Supply Officer shall ensure the return of the containers to appropriate vendors to obtain recovery of deposits to the greatest extent possible.

d. Low-value containers, such as drums, may be recorded by lot.

3.6.4 The Supply Officer shall ensure containers are identified as either vendor-owned or NASA-owned.

3.6.5 The Supply Officer shall ensure a suspense system is maintained for returnable containers. The containers should be returned to Supply so they can be returned to the vendors as quickly as possible to prevent unnecessary costs.

Chapter 4. Inventory Transactions

4.1 Issue and Backorder Management

4.1.1 Issues from store and standby stock are made only on the authority of the official who requested that the item be placed in stock.

4.1.2 Issues from Program Stock are made only to individuals authorized by the owning organization.

4.1.2.1 The Supply Officer shall develop procedures to identify authorized recipients of Program stock.

4.1.3 Supply Officers shall develop a procedure to manage backorders.

4.1.3.1 Backorders are requests for issue of material, supplies, and equipment that are not available at the time requested through Online Supply Catalog and Reservations (OSCAR) or the Center Supply Management System.

4.1.3.2 Backorder management procedures will include a monthly backorder reconciliation process between the customer and Supply Management functions.

4.1.3.3 The process will include providing customers a product that shows all backorders for the organization, status of orders, cancelation of backorders no longer required, cost of items on order, and a process for crediting obligated funds back to the organizations when authorized.

4.2 Stock Control

4.2.1 Stock Control personnel conduct stock replenishment using Material Requirements Planning in SMS.

4.2.1.1 Prior to submitting orders for material from external sources, Centers will verify that the material is not available from disposal assets that are serviceable or reusable.

4.2.1.2 Orders from GSA, DLA, and other Government supply sources are to be accomplished in accordance with 41 CFR, subpt. 101-26.2 which provides detailed ordering procedures.

4.2.1.3 Centers must have an Activity Address Code (AAC) assigned prior to ordering from Government sources of supply.

a. Centers obtain AACs by submitting a NF 1603 in accordance with 41 CFR, subpt. 101-26.3.

b. The Supply Officer shall designate an AAC coordinator.

c. The Center AAC Coordinator shall submit all requests from Centers for assignment, change, extension, and deletion of AACs to NASA Supply Program Manager, Headquarters Logistics Management Division.

d. To obtain an AAC for NASA contractor activities, the Center AAC Coordinator shall submit a NF 1603, along with the data required by the FAR 51.102, subpt. 51.1, NFS subpt. 1851.102 and the

contractor cage code to the NASA Logistics Manager Division Supply Program Manager.

4.2.1.4 The NASA Supply Program Manager is the Agency AAC point of contact and shall perform the following:

a. Submit Center-approved requests for assignment, changes, extensions, and deletions of AACs to GSA.

b. Advise the requesting Centers of AAC assignments and changes.

c. Maintain a current, consolidated record of AACs and supporting documentation for all NASA activities.

4.2.2 Replenishment of Store Stock.

4.2.2.1 Requirements for implementing the EOQ principle of stock replenishment are in the GSA Handbook, The Economic Order Quantity Principle and Applications, NSN 7610-00-543-6765, in the GSA Supply Catalog.

4.2.2.2 Exceptions from the EOQ table values may be made for specific items when they meet one of the following:

a. Have a shelf life less than the specified EOQ criteria.

b. Are for standby or involve planned requirement for a special one-time project, such as construction materials for a major building renovation.

c. Can be acquired from excess.

d. Are necessary due to limits on storage space or funds.

4.2.3 Program Stock can be replenished when funded and authorized by the program or project manager. Authority to replenish Program Stock may be delegated in writing to the SEMO by the program or project manager.

4.2.4 Stock Control replenishes Standby Stock if the responsible Organization Division Chief or equivalent certifies that replenishment is necessary. A blanket certification may be given to the SEMO, subject to review every two years.

4.3 Special Item Controls

4.3.1 Certain items have unique features, qualities, or properties that require special controls. Supply Officers shall establish special inventory controls and procedures for identification, storage, issue, and, where necessary, turn in, requisition, and disposition of such items in accordance with NASA policies and procedures (this NPR, as well as NPR 4200.1 and NPR 4300.1)

a. Medical equipment, supplies, medicinal alcohol, drugs, and first aid kits will be ordered only if approved by the Chief Medical Officer. First aid kits cannot contain drugs.

b. Photographic film and tools shall be approved by the Division Chief or equivalent. The ordering organization is responsible for identifying employees authorized to order tools for their organization.

c. Supply Officer shall develop procedures to ensure requirements for biological, radioactive, nuclear, hazardous, classified, sensitive, weapons, ammunition, and explosive materials are secured,

ordered, and issued to authorized personnel only.

d. Supply management with a hazardous material storage facility shall develop procedures to comply with the requirements in NPR 8715.3 and include the following provisions:

(1) Hazardous material storage process to ensure the conditions of materials in storage are assessed at least quarterly.

(2) Process to determine when hazardous material should be removed from active inventory and disposed of.

4.4 Return to Inventory

4.4.1 Return of items to stocks will be accepted by Supply. Supply Officers shall determine condition, packaging, marking, and documentation criteria for items returned to stocks.

4.4.2 The Supply Officer shall develop procedures to determine when credit may be granted for turn-in of material that is serviceable and ready for issue.

4.4.2.1 Procedures will allow credit only for returns that can be identified to the appropriation and accounting classification coding (i.e., organization, program, project, or functional category) of the activity to which the original issue was made.

4.4.2.2 Credit will not be allowed for free issue, items filled through excess, items not obtained through Logistics, items that cannot be returned to inventory due to poor condition or obsolescence, or issues made prior to the beginning of the previous fiscal year.

4.5 Adding Line Items to Inventory

4.5.1 Supply Officers shall create a process to add items to inventory.

4.5.1.1 Requests will provide justification for stockage under a specified criteria and approval will be approved by responsible levels of management as designated by the Center.

4.5.1.2 The Supply Officer shall review requests for stockage to ensure that line items have sufficient demands or anticipated future demands to warrant stockage.

4.5.1.3 Items qualifying for stockage shall be approved by the Center SEMO.

4.5.1.4 The individual requesting that the line item be added to stock will be notified of the decision to stock or not.

4.6 Retaining Inventory

4.6.1 Stock Control annually reviews Store Stock items for retention or elimination that have been in inventory for at least 12 months with no demands.

4.6.2 Every two years, the Supply Officer shall provide a list of items in Program Stock to the controlling Directorate Chief or equivalent for review and justification for retention of equipment, material, and supplies in storage for projects/programs that have launched or are cancelled.

4.6.2.1 If items are retained for a program and that program is canceled, the items will not be held unless another program is identified and continued retention is justified by a Directorate Chief or equivalent. Programs and projects that have launched or are canceled shall turn all residual inventory over to Logistics for disposition and or retention.

4.6.2.2 The Supply Officer will generate a supply material aging report of material and supplies in inventory with no demand in two years along with program or project retention justification for submission to the Center Operations Director for approval of continued retention. The SEMO may levy storage charges for items retained in Program Stock.

4.6.3 Every two years, the Supply Officer shall provide a list of items in Standby Stock to the controlling Division Chief or equivalent for review and an indication of the need for retention.

4.6.3.1 The justification for retention should state the purpose for which contingency items are being held and that the items need to be available immediately to meet emergencies.

4.6.3.2 The SEMO may levy storage charges for items retained in Standby Stock.

4.6.4 Supply Management activities not using SMS will follow the requirements for retention of inventory in 41 CFR, §101-27.304.

4.6.5 Review of the economic retention limit will occur at the same time as the review for continued stockage.

4.6.5.1 Months of supply will be computed on the previous 12-months' demand history.

4.6.6 The economic retention limit may be increased when:

a. The item is of special manufacture and relates to an end item of equipment that is expected to be in use beyond the economic retention time limit.

b. Costs incident to holding an additional quantity are insignificant and obsolescence or deterioration of the item is unlikely.

c. An item can be held in stock without incurring greater costs for carrying the stock than the costs for disposal and resulting loss of investment.

4.6.7 The economic retention limit should be reduced when:

a. The related end item of equipment is being phased out or an interchangeable item is available.

b. The item has limited storage life, is likely to become obsolete, or the age and condition of the item does not justify the full retention limit.

4.6.8 The reasons for any increase or decrease to the economic retention limit will be documented.

4.6.9 Items marked for deletion will be issued until stock is depleted or transferred to disposal.

4.6.10 Supply may hold material items on a temporary basis for a user activity and temporarily store material, supplies, and equipment, such as seasonal items and items for a planned work or job order until they are actually needed. The nature of NASA operations occasionally makes it desirable to temporarily store user-owned items in appropriate storage facilities for a specified period.

4.6.10.1 The specific period for the temporary storage and the reason for storage will clearly be stated as to why items cannot be currently used or retained in the user's organization. Temporary

storage shall not exceed one year. SEMOs are authorized to charge for storage if after one year the material has not been utilized for its intended purpose by the owning organization. SEMO approves retention beyond one year.

4.6.10.2 Hazardous, electrostatic discharge, personal items, official or personal files and records, and unserviceable or contaminated material will not be temporarily stored under this program.

4.6.10.3 The SEMO may charge customers for this service.

4.6.11 Bench Stock.

4.6.11.1 NASA Centers are authorized to establish and maintain Bench Stock, which consists of low-cost, repetitively used, consumption-type items located at or near points of use to ensure uninterrupted operations. Bench Stock located in close proximity to the user reduces the user's need to constantly requisition repetitively required items from a central supply.

4.6.11.2 With the concurrence of the Center SEMO, a using activity may identify specific items and the desired maximum and minimum stock quantities and establish a Bench Stock operation.

4.6.11.3 Bench Stocks are not to be used as a repository for excess items that cannot otherwise be justified for retention in authorized Stores, Program, or Standby Stocks.

4.6.11.4 The specific requirement for establishing and operating a Bench Stock is as follows:

a. The using activity and the SEMO shall jointly determine the location of Bench Stocks and the items and the quantities of the items to be maintained in the designated Bench Stocks.

b. The maximum quantity maintained per line item should not exceed a 60-day supply.

c. Records identify:

(1) Stock or part number.

(2) Name.

(3) Unit of issue.

(4) Unit price.

(5) Stock level (maximum and minimum quantities to be stocked).

(6) Stock resupply point of the items maintained therein.

d. An organization shall assign a Bench Stock Monitor in writing to the Supply Officer.

(1) The monitor will be responsible, at a minimum, for:

(a) Recommending Bench Stock additions and deletion items.

(b) Tracking, issuing, controlling access to, and ordering replenishment of Bench Stock.

(c) Creating controls to ensure only authorized users are issued items from the Bench Stocks.

(d) Managing Bench Stocks within designated usage thresholds. The using activity may request approval from the SEMO to temporarily exceed the threshold.

Chapter 5. Physical Inventory Procedures

5.1 Physical Inventory Requirements

5.1.1 Physical inventories are conducted to update and assess the accuracy of inventory records. Physical inventories are designed to identify inventory overages, losses, and damage; process inconsistencies; and physically verify that the quantities of assets on hand match the SMS record. The Supply Officers shall ensure physical inventories of Center materials and supplies are conducted to ensure the physical on-hand quantity and the inventory record quantity are in agreement for all inventory.

5.1.1.1 Physical inventories provide a method of reconciling and adjusting inventory records so that accurate information is reflected in SMS.

5.1.2 The inventory accuracy rate at the completion of physical inventories measures the adequacy and effectiveness of inventory control processes and determines the accuracy of supply records in SMS.

5.1.2.1 The calculation of the inventory accuracy rate is the percentage of items having accurate records. The inventory accuracy rate computation equals the number of correct records divided by the number of records inventoried multiplied by 100. Centers are required to achieve an inventory accuracy rate of 95 percent for program stock, store, and standby stock inventories.

5.1.3 The Supply Officer shall ensure an inventory analysis is performed when Centers do not meet the inventory accuracy rate.

5.1.4 Individuals responsible for conducting physical inventories cannot be the same individuals performing daily storage and issue functions for the items stored in Logistics warehouses.

5.1.5 The Supply Officer shall develop a written inventory schedule for accomplishing physical inventories of store, program, and standby stock.

a. Physical inventories will be conducted and completed by September 30 in the same fiscal year.

b. The inventory schedule should contain, at a minimum, the data elements listed below:

(1) Identification of material and supplies under inventory (store, program, or standby stock).

(2) Scheduled inventory start dates.

(3) Estimated completion date.

(4) Number of items inventoried.

5.2 Inventory Frequency and Methods

5.2.1 Supply Officers shall ensure a cyclical complete wall to wall inventory is conducted every five years. The Supply Officer is required to ensure 5 percent of the total line items on hand are inventoried quarterly each fiscal year using the complete inventory method until all assets have been inventoried at the end of five years.

5.3 Inventory Results

5.3.1 When a quarterly complete inventory does not meet the inventory accuracy rate standard of 95 percent, the Supply Officer or their designee will perform an analysis to determine the root causes for the inventory errors and recommend corrective action. The Supply Officer will forward the corrective action to the SEMO for approval.

5.3.2 The Supply Officer is required to prepare a quarterly summary report of the physical inventory results for approval by the SEMO and Senior Logistics Manager or equivalent.

a. The summary report will be submitted to the Center Director or equivalent and the Center Operations Director or equivalent ten work days from the close of the inventory.

b. A copy of the summary report will be forwarded to NASA HQ, Logistics Management Division Supply Program Manager 15 calendar days from the close of the inventory.

c. The summary report will include the following:

(1) Inventory, start and completion date.

(2) Number of line items inventoried for the quarter, type of stock, and value of items inventoried.

(3) Number and value of line items with pending property survey reports.

(4) Number of line items, value, and reason for inventory adjustments.

(5) Identify any training, procedural, and process changes or corrective actions initiated or implemented to improve asset accountability following analysis of the inventory results.

(6) Quarterly inventory accuracy rate achieved and actions taken to improve inventory accuracy rate if standard not met.

5.4 Inventory Adjustments

5.4.1 NASA inventory records in SMS shall accurately reflect the physical balance of material assets on hand and must be reconcilable with financial records. When discrepancies exist between inventory records and physical on-hand balances, prompt action must be taken to correct, determine the cause, and adjust the balances to correct the discrepancy.

5.4.2 Personnel conducting the inventory shall perform a one-year transaction history to determine the reason for inventory discrepancies prior to adjusting the inventory record except for items that require special controls. A one-year transaction history is not required when the extended value of discrepancy is less than $50. The automatic adjustment does not apply to special or controlled inventory items that must be fully researched regardless of value of the discrepancy. When materials inventory records are adjusted, corresponding adjustments must be made in the appropriate General Ledger Accounts and must be identified as losses or credited to gains to the Center Financial Officer.

5.4.3 The following inventory adjustment transactions cause gains or losses to the Inventory General Ledger Account 1200 and shall be reported to the Center Financial Officer by the SEMO or their designee.

5.4.4 Discrepancies between the recorded system balance and the physical count quantity.

5.4.5 Inventory adjustments due to damage, destruction, obsolescence, deterioration, loss, or theft.

5.4.6 Adjustment of record to correct operational errors that cannot be referenced to the original transaction document.

5.4.7 Transfer of excess materials to the Property Disposal Officer (PDO); delete value from Account 1200.

5.4.8 Return to vendors or suppliers when no other type of transaction is appropriate.

5.4.9 Adjustments transactions from paragraphs 5.4.3 thru 5.4.8 shall be processed for approval as follows:

5.4.10 When the total dollar value of line items is $5,000 or more, the adjustment report shall be certified by the SEMO and approved by the Inventory Adjustment Officer (IAO). When the total dollar value of any one item is less than $5,000, the adjustment may be certified by the Supply Officer and approved by the SEMO.

5.4.11 Approving officials shall ensure inventory adjustments are not the result of fraud, waste, abuse, theft or misappropriation of personal property. If either condition is suspected, the official shall require a property survey report in accordance with NPR 4200.1. An inventory adjustment reasons code for all adjustments shall be recorded in SMS.

Table 5-1 Inventory Adjustment Reason Codes

Discrepancy	Code
Physical Inventory Discrepancies	01
Damage or Destruction	02
Obsolescence or Deterioration	03
Loss	04
Theft	05
Operational Errors	07
Returns to Vendor	10
Excess Transfers to PDO	11

5.4.12 Copies of all adjustment reports shall be furnished to the Center Deputy Chief Financial Officer. Copies of inventory adjustment vouchers that delete items of inventory from Account 1200 for redistribution or disposal must be sent to the Deputy Chief Financial Officer by the SEMO.

5.4.13 When discrepancies exist between inventory records in SMS and physical quantity of assets, an inventory adjustment should be processed to correct the on-hand balance.

5.4.14 Loss, damage, or theft of controlled assets requires the completion of a survey report (NF

598) in accordance with NPR 4200.1.

5.4.15 The Supply Officer shall process a Supply Physical Inventory Details Report in SMS at the completion of an inventory.

a. The SEMO shall sign, date, and certify the report and direct initiation of reports of survey as required in accordance with NPR 4200.1.

Chapter 6. Receiving Operations

6.1 Receiving Procedures

6.1.1 Receiving Operations shall:

a. Record all incoming receipts in a log that contains the date received, purchase order number, number of pieces, delivering carrier, vendor or manufacturer, any visible damage, and legible name and signature of the person in receiving taking custody of the material.

b. Inspect material to ensure that property is free from visible damage and that part number, NSN, and quantity received matches the accompanying package slip, invoice, requisition, or purchase order.

(1) Each package or box shall be opened unless opening the package voids the warranty or would damage the contents.

c. Process, inspect, and protect electrostatic discharge (ESD) sensitive material in accordance NPD 8730.2, NASA-HDBK 8739.21, and Center policy and procedures.

d. Process and inspect fasteners in accordance with NASA-STD-6008 and Center requirements.

e. Inspect incoming Customer Supplied Products (CSP) in accordance with Center procedures.

f. Process receipt transactions in SMS and other data systems as required by Center policies.

g. Stage incoming property for delivery or storage.

h. Document discrepant or damaged material not under the NASA or Center Management System (MS) as a supply discrepancy.

i. Reject and segregate discrepant or damaged material and work with the Contracting Officer to resolve supply discrepancies for products not governed by the MS.

j. Designate products that fall under the NASA MS (including CSP) that do not meet the purchase order, shipping documentation, or contract specifications as nonconforming.

k. Document, tag, segregate, and obtain disposition instructions for nonconforming products according to Center procedures.

l. Ensure incoming hazardous material are inspected on a spill containment pallet and that safety data sheets (SDSs) are available with the product.

(1) Store and prohibit access to hazardous material by unauthorized personnel.

(2) Storage containers for hazardous material will be secured and material housed in appropriate cabinets to prevent disbursement or accidental spills until the product is delivered to intended customer or designated warehouse location.

(3) Storage containers will be labeled with the hazard contained within and the SDS collocated with the stored material.

m. Ensure all material in the custody of Receiving is secured from theft, pilferage, or damage.

n. Submit Reports of Survey in accordance with NPR 4200. 1 when incoming Government property is lost, damaged, or stolen.

o. Inspect all commercially purchased incoming material's shelf life to ensure the age on delivery from the shelf life expiration date is in accordance with table 6-1. The age on delivery inspection does not apply to shelf life material obtained from a government source of supply.

Table 6-1 Shelf-Life Age on Delivery

Shelf-Life Period	Maximum Age on Delivery
25 months or more	6 months
19 - 24 months	4 months
13 - 18 months	3 months
7 - 12 months	2 months
6 months or less	1 month

p. Ammunition, firearms, explosives, and biological/ hazardous and radioactive material are stored in secure storage areas until issued to intended recipients in accordance with Center-developed policy and procedures.

q. Verify individuals receiving incoming classified material, explosives, firearms, ammunition, ,radioactive, prohibited or restricted hazardous material are authorized to do so through Center Protective Services prior to turning over the material if the Center has not implemented procedures to verify an individual's authorization to receive material.

Chapter 7. Reports and Forms

7.1 Management Products for Inventory Systems Controlled by Information Technology

7.1.1 Center inventory management systems, where applicable, will generate, at a minimum, the following output products:

a. Transactions register showing the history for items having activity during the system cycle or having action pending.

b. Stock replenishment analysis showing the data necessary to compute the stock position, including the EOQ and the new review point.

c. Stock retention analysis showing the data needed to determine the economical retention limit or stockage criteria for an item. This product may be combined with the stock replenishment analysis and is to be published at least annually.

7.2 Headquarters Reporting

Physical Inventory of Materials Reports are reported in SMS and can be extracted by NASA Headquarters as required. Centers not utilizing the SMS are required to provide the Physical Inventory of Materials report to HQ Logistics Management Division Supply Program Manager quarterly.

7.3 General Requirement for all Reports

7.3.1 All reports will be in agreement for those elements in common. That is, when the same data appear on two or more reports, there can be no discrepancies between the reports. This instruction applies to NASA Headquarters and all Centers.

7.3.2 Data reported by Centers will include data covering component Centers and any onsite contractors for which the Center retains accountability under NFS clause 1852.245-71, Installation-Accountable Government Property. a. Reports are automatically developed in bReady (Agency Financial Accountability Report) and can be extracted on an as-needed basis.

Appendix A. Definitions

NOTE: For definitions related to equipment, see NPR 4200.1, NASA Equipment Management Procedural Requirements; for definitions related to disposal, see NPR 4300.1, NASA Personal Property Disposal Procedural Requirements.

Accountability (Property). The ability or need to account for personal property by providing a complete audit trail for property transactions from receipt to final disposition.

Activity Address Code. A six-position code composed of numbers, letters, or a combination of both assigned for use on requisition documents submitted to Government supply sources to identify the requisitioner, the consignee, and the payee. The code identifies the Transportation Account Code (TAC) information for mail, freight, and billing. TAC 1 contains the mail delivery address; TAC 2 contains the freight delivery address; and TAC 3 contains the billing address. Backorder. A commitment by supply made to a customer and recorded in supply records to issue at a later date an item which was not available upon initial customer demand.

Bench Stock. A stock of low-cost, repetitively used, consumption-type supplies and repair parts, established at or near points of consumption/use to ensure continuous and uninterrupted operations. Bench Stocks are generally restricted to maintenance, repair, or fabrication-type activities.

Business Objects (BOBJ). Part of the NASA PP&E System where the user performs equipment searches and generates reports.

bReady Portal. Agency Web site that captures all financial information and offers capability to extract reports from system.

Cataloging. Cataloging is the process whereby each item of supply, material, and equipment is named, assigned a Federal Supply Class, described to identify all known characteristics and performance data, and ultimately assigned a National Stock Number (NSN) or Non-standard NSN.

Consumption Item. Items which are either consumed in use or which lose their original identity during use by incorporation into, or attachment upon, another item. Consumption items consist of such supplies as maintenance parts, raw materials, office or housekeeping supplies consumed in use, or other similar items.

Compensating Controls Review (CCR). Compensating Controls Reviews assess the performance in the areas of Logistics Management Operations consisting of supply, equipment, disposal, storage/warehousing, contract property management, mail management, transportation, and fleet management, as well as compliance with established laws, regulations, policies, and requirements. NASA CCRs are intended to assess a Center's LMO programs by identifying potential strengths and weaknesses and providing specialized technical or management support to ensure that strengths are leveraged and that weaknesses are remedied. Center strengths that the CCR Team identifies as logistics management best practices will be shared for potential Agency-wide implementation.

Contractor. For the purpose of this NPR, any non-NASA entity or individual working on a NASA installation or offsite with access to NASA equipment. Demand. A request for issue of an item. A demand may be recurring or nonrecurring.

Direct Delivery. The process of acquiring an item from a source of supply and issuing directly to the customer.

Disposal. The processes involved in the removal of personal property from use and from NASA PP&E system because of trade-in, transfer to another Federal agency, donation, sale, or abandonment/destruction. NASA's disposal policy is outlined in NPD 4300.1.

Economic Order Quantity (EOQ). The amount of an item to buy that fulfills the EOQ Principle. The EOQ is expressed in months of supply and is derived from an EOQ table.

Economic Order Quantity (EOQ) Principle. **A method for determining replenishment** order quantities to minimize the cost to buy an item and the cost to hold that item.

Equipment. A tangible, durable, nonexpendable asset that is functionally complete for its intended purpose. Equipment is not intended for sale and does not ordinarily lose its identity or become a component part of another article when put into use. Equipment includes all items of NASA personal property that are configured as mechanical, electrical, or electronic machines, tools, devices, and apparatuses that have a useful life of two years or more and is not consumed or expended in an experiment. Equipment does not include supplies, material, real property, and software.

Electrical, Electronic, and Electromechanical (EEE) Component. Microcircuits, transistors, diodes, capacitors, resistors, transformers, relays, switches, connectors, wire and cable, and more. EEE parts used by NASA are selected to be designed and manufactured to achieve optimum safety, reliability, maintainability, on-time delivery, and performance of hardware.

Error. A record to count discrepancies of ten percent or more or a dollar variance of ten percent or more of the extended value of an inventoried line item.

Excess. Classification assigned to material for which no requirement exists.

Federal Supply Classification (FSC). A system developed in the Federal Cataloging System for use in classifying items of supply. The structure of the FSC consists of groups subdivided into classes within each group. Each class covers a relatively homogeneous area of commodities with respect to physical or performance characteristics, or the items included are usually requisitioned or issued simultaneously.

Federal Property Management Regulations. Contains regulatory policies for supply management activities.

Flight Hardware. Property that is certified for use in space flight operations.

Fiscal Year. The 12-month period from October 1 through September 30.

Inventory (noun). An inventory is a formal listing of all accountable property items owned by NASA, along with a formal process to verify the condition, location, and quantity of such items.

Inventory (verb). The actions leading to the development of a listing; for example, an inventory of NASA equipment needs to be conducted annually using an actual physical count, electronic means, and/or statistical methods.

Inventory Adjustment. A transaction processed to adjust materials inventory records and any imbalances between such records and quantities in stock. Issue. The process of distributing material from inventory to customers for use or consumption.

Long Supply. Items in stock with a level exceeding the authorized stock level including lead time and safety stock but excluding quantities declared excess.

Low-Demand Item. An item for which the EOQ is a 12-month-or-more supply. This applies only in a supply system.

Material. As used in this NASA directive, supplies, parts, components, assemblies, and items that are held in inventory prior to issue that do not meet the criteria for controlled equipment.

NASA Employee. NASA civil service personnel.

NASA Property, Plant, and, Equipment (PP&E) System. The Integrated Asset Management (IAM), PP&E System is used throughout the Agency to identify, control, and account for Government-owned equipment acquired by or in use by NASA and its onsite NASA contractors under NFS 1852.245-71. The PP&E System consists of the following components: Systems, Applications, and Products (SAP); Equipment, Disposal, and Business Objects (BOBJ). The SAP component contains the following modules: Asset Accounting (containing the Asset Master Records (AMR)) and Plant Maintenance (containing the Equipment Master Records (EMR).

NASA Supply Management System (SMS). NASA program developed for the administration of NASA supplies and material and described in NPR 4100.1.

National Stock Number (NSN). The official label applied to an item of supply that is repeatedly procured, stocked, stored, issued, and used throughout the Federal supply system. It is a unique item identifying series of numbers. When a NSN is assigned to an item of supply, data is assembled to describe the item. Some data elements include information such as an item name, manufacturer's part number, unit price, and physical and performance characteristics. The use of NSNs facilitates the standardization of item names, supply language, characteristics, and management data and aids in reducing duplicate items in the Federal inventory.

Perpetual Inventory Control. The circumstance where the record for each item reflects every quantitative change for the item, providing at any selected time in the system cycle the on-hand balance of that item.

Personal Property. Property of any kind including equipment, materials, and supplies but excluding real property. Property of any kind or any interest therein, except real property, acquired by NASA including property in transit in Government conveyances or common carriers; storage for stock or disposal; undergoing maintenance, repair, modification, or service test; and acquired by donations or any other method.

Physical Inventory. The process of physically sighting and counting quantities of materials held in inventory by a Center, reconciling the count with the recorded balance, and processing the necessary documents to adjust the inventory records and the financial accounts.

Program Stock. Material supplies or equipment acquired for a specific aircraft, program or project. NASA owns the material; however, Logistics is storing the inventory until the using organization requests the material, supplies, or equipment be issued for its intended purpose.

Property Accountability. The process of maintaining custodial responsibility of personal property through a record of transactions, systematically maintained, which at any given time discloses item identification, quantity, cost, location, and custodial assignment to either Center personnel or contractor.

Property Disposal Officer (PDO). The PDO, designated by the Center Director, is responsible for the Center's screening, redistribution, and marketing activities of NASA-owned excess, surplus, and exchange/sale personal property. This includes transfer, exchange, sale, and abandonment or destruction of NASA-owned personal property, as well as acquiring other Federal agencies' excess personal property for NASA's use in order to reduce NASA's new procurement and infrastructure costs. (See NPR 4300.1.)

Property Survey Officer. An individual designated by the Center director to investigate the circumstances and make findings and recommendations relating to lost, damaged, destroyed, or stolen Government property listed on a Property Survey Report.

Property Survey Board. Composed of two or more members (with alternates as appropriate), and a chairperson, assigned to investigate and make recommendations to division directors and other appropriate Center officials concerning the loss, damage, or destruction of controlled equipment exceeding $5,000 in acquisition value. It is recommended that a representative from the Chief Counsel and the Security Officer be members of the Property Survey Board.

Property Survey Report. A report of administrative action taken to investigate and review the loss, damage, destruction, or theft of Government property; to adjust the property records; to assemble pertinent facts; and to determine the extent or absence of liability for such loss, damage, theft, or destruction.

Repetitive Demand. A reoccurring request for issue of an item. A demand may be recurring or nonrecurring.

Replenishment Lead Time. The period between initiation of a reorder and its receipt in stock.

Repair Part. A part needed to return a higher-level assembly or component to a serviceable or operational condition.

Returnable Container. Any carboy, cylinder, drum, reel, or other container that is designed to hold materials or products and that is to be returned to a vendor when the contents have been removed or consumed.

Returns. Turn in of unneeded materials from operating personnel for inclusion in the Center's materials inventory.

Review Point. The point, in units of issue, at which the usage history of an item is analyzed to determine if it should be reordered or its reorder deferred. The review point is usually the sum of lead time stock plus safety stock.

Safety Stock. A quantity included in the normal stockage objective to provide added assurance against stock out conditions.

Shelf-Life Item. Item possessing deteriorative or changeable characteristics so that a storage period is assigned to that item to ensure that the item will perform satisfactorily upon issuance.

Special Item. An item having such unique qualities, properties, or features as to require special physical and managerial controls.

Standby Stock. Material held to support emergencies.

Stores Stock. Material being held in inventory by the Center that is repetitively procured, stored,

and issued on the basis of recurring demand.

Sub-installation. A subset of materials managed (by a property custodian) which are tracked independently of the remaining installation materials.

Supply and Equipment Management Officer (SEMO). NASA Civil Servant designated by the Center Director to provide functional management and leadership for implementation of effective equipment, supply, and disposal management at a Center.

Supply Officer. NASA Civil Servant designated by the SEMO to provide management of supply operations at a Center.

Supply Point. Any facility or area, regardless of location, that normally functions as a point at which material is held and subsequently issued or otherwise made available for use or consumption, including warehouses, stockrooms, bonded storage, self-service facilities, shop stores, cribs, bench stocks, and sales stores.

Appendix B. Acronyms

AA	Assistant Administrator
AAC	Activity Address Code
CAGE	Commercial and Government Entity
CFR	Code of Federal Regulation
COO	Country of Origin
CSP	Customer Supplied Product
DLA	Defense Logistics Agency
DLSC	Defense Logistics Services Center
DoD	Department of Defense
DISPOSAL	NASA PP&E System NASA Disposal Module
EEE	Electrical, Electronic, and Electromechanical
EOQ	Economic Order Quantity
ESD	Electrostatic Discharge
FAR	Federal Acquisition Regulation
FCS	Federal Catalog System
FEDSTRIP	Federal Standard Requisitioning and Issue Procedure
FFRDC	Federally Funded Research and Development Center
FIFO	First in, First Out
FILDR	Federal Item Logistics Data Record
FLIS	Federal Logistics Information System
FPMR	Federal Property Management Regulations
FSC	Federal Supply Class
FSS	Federal Supply Schedule
GIDEP	Government-Industry Data Exchange Program
GSA	General Services Administration
I&S	Interchangeability and Substitutability
IAM	Integrated Asset Management
IAO	Inventory Adjustment Officer
IL	Identification List
ITAR	International Traffic in Arms Regulation

JPL	Jet Propulsion Laboratory
MCRD	Master Cross Reference Data
MDL	Management Data List
MILSTRIP	Military Standard Requisitioning and Issue Procedure
MRD	Master Requirements Directory
MS	Management System
NAMIS	NASA Aircraft Management Information System
NASA	National Aeronautical and Space Administration
NCSC	National Customer Service Center
NF	NASA Form
NFS	NASA FAR Supplement
NIIN	National Item Identification Number
NPD	NASA Policy Directive
NPR	NASA Procedural Requirements
NSN	National Stock Numbers
OSCAR	Online Supply Catalog and Reservations
PDO	Property Disposal Officer
PIIL	Proprietary Item Identification List
PPE	Personal Protective Equipment
PP&E	Property, Plant, and Equipment
QPL	Qualified Products Listings
SAP	System, Applications, and Products
SDS	Safety Data Sheet
SEMO	Supply and Equipment Management Officer
SF	Standard Form
SFM	Simplified File Maintenance
SLES	Shelf-Life Extension System
SMS	Supply Management System
UserID	User Identification
URL	Universal Resource Locator

Appendix C. Catalog Activity Codes

The following activity codes are assigned by DLSC (via GSA) to each NASA Center activity to identify and associate all cataloging actions and operations related to each activity. These codes are widely published and recognized throughout all supply systems of the Federal Government.

CODE	CENTER
17	John C. Stennis Space Center (SSC)
18	Ames Research Center (ARC)
19	Langley Research Center (LaRC)
28	Goddard Space Flight Center and Wallops Flight Facility (GSFC and WFF)
80	George C. Marshall Space Flight Center (MSFC)
86	John F. Kennedy Space Center (KSC)
92	Lyndon B. Johnson Space Center (JSC)
93	John R. Glenn Research Center (GRC)
94	Armstrong Flight Research Center (AFRC)

Appendix D. Shelf-Life Codes

Shelf-Life Period	Type I	Type II	Age on Delivery (Months)
Non-Deteriorative No Shelf Life Applies	0 (zero)	0 (zero)	N/A
01 Month	A	N/A	1
02 Months	B	N/A	1
03 Months	C	1	1
04 Months	D	N/A	1
05 Months	E	N/A	1
06 Months	F	2	1
09 Months	G	3	2
12 Months (1.00-Year)	H4	2	
15 Months (1.25-Years)	J	N/A	3
18 Months (1.50-Years)	K	5	3
21 Months (1.75-Years)	L	N/A	4
24 Months (2.00-Years)	M	6	4
27 Months (2.25-Years)	N	N/A	6
30 Months (2.50-Years)	P	N/A	6
36 Months (3.00-Years)	Q	7	6
48 Months (4.00-Years)	R	8	6
60 Months (5.00-Years)	S	9	6
72 Months (6.00-Years)	I	N/A	6
84 Months (7.00-Years)	T	N/A	6
96 Months (8.00-Years)	U	N/A	6
120 Months (10-Years)	W	N/A	N/A
180 Months (15-Years)	Y	N/A	N/A
240 Months (20-Years)	Z	N/A	N/A

Shelf-Life Period Greater than 60 Months for Type II Extendible Items.	N/A	X	N/A

Appendix E. References

E.1 Cataloging and Standardization, 10 U.S.C. Chapter 145.

E.2 The Federal Property and Administrative Services Act of 1949, 40 U.S.C. § 101 et seq.

E.3 Federal Property Management Regulations, 41 CFR Chapter 101.

E.4 Priorities for Use of Supply Sources, Federal Property Management Regulations, 41 CFR § 101-26.107.

E.5 Management of Shelf-Life Materials, Federal Property Management Regulations, 41 CFR Subpt. 101-27.2.

E.6 Maximizing Use of Inventories, Federal Property Management Regulations, 41 CFR § 101-27.3.

E.7 NPD 4200.1, Equipment Management.

E.8 NPD 4300.1, NASA Personal Property Disposal Policy.

E.9 NPR 1400.1, NASA Directives and Charters Procedural Requirements.

E.10 NPR 9220.1, Journal Voucher Preparation and Approval and Intragovernmental Transactions.

E.11 NPR 9250.1, Property, Plant, and Equipment and Operating Materials and Supplies.

E.12 NPR 9260.1, Liabilities.

E.13 NASA-STD 8739.6, Implementation Requirements for NASA Workmanship Standards.

E.14 DD Form 1685, Data Exchange and/or Proposed Revision of Catalog Data.

E.15 DD Form 2477, Shelf-Life Extension Notice (1, 2, 3 series).

E.16 Federal Standard (FED-STD) 793, Depot Storage Standards.

E.17 ISO 9000, Quality Management Systems - Requirements.

E.18 ANSI/ESD S20.20, Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices).